

STUDENTS' PERCEPTIONS ON JOINING CO-CURRICULAR ACTIVITIES: EMPIRICAL STUDY IN HONG KONG

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ABSTRACT

Many previous studies have been carried out to investigate the impact on students after joining co-curricular activities. Co-curricular activities are believed to be useful for students' development in various aspects, such as academic achievement, socialization and youth development. With expansion of the tertiary education sector in Hong Kong, it is worthwhile investigating students' perceptions about co-curricular activities which provide insights to education institutions in planning the activities. To conduct the study, questionnaires were distributed to tertiary education students to collect their views. Comparison of perceptions was made among different disciplines' students. Students of different disciplines share similar views on some areas but have different concerns and preferences in joining activities as well. Based on the findings, suggestions are made to education institutions in planning their resources on co-curricular activities for students of different disciplines.

KEYWORDS: Co-Curricular Activities, Tertiary Education, Perceptions, Business, Science, Social Science & Students

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INTRODUCTION

Background

The tertiary education sector in Hong Kong has undergone speedy growth in the past decade. To align with government objectives in education to assure the quality of tertiary education and ensure its relevance to the needs and development of the community, in addition to quality programmes, tertiary education institutions also put a significant amount of resources into arranging co-curricular activities (CCA) for students. Life-long learning and all-round development are the core spirits of the current education system (Education Bureau, 2010).

Based on previous studies, it is generally agreed that CCA brings benefits to students, such as higher academic achievement (Dumais, 2009), better social and competency skills (Shern off & Vandell, 2007) and youth development (Eccles et al., 2003); and only a few studies have been conducted to investigate students' perceptions on CCA. As the cultural background between the east and the west is different, it is interesting to study the perceptions in an eastern context like Hong Kong. To nurture the younger generation with both academic excellence and a comprehensive outlook through a broad spectrum of activities, it is interesting to investigate the students' perceptions of CCA in Hong Kong, an eastern international city and education hub, in order to provide useful insights to tertiary educations in planning activities for students.

LITERATURE REVIEW

Co-Curricular Activities (CCA)

Co-curricular activities are the integral part of educational system and CCA plays a vital role in education for the all-round development of students (Kumar et al., 2004). In most previous studies, the word “co-curricular” is interchangeable with “extra-curricular”. In this current study, “co-curricular” is used because to be an “all-round student” the activities and the academic curriculum have equal standing. CCA can be conducted inside or outside classrooms and can include joining activities organized by school clubs and associations and recognized organizations (Kumar & Kumar, 2012). Feldman et al. (2011) described CCA in terms of sports, residence hall functions, clubs, organizations, and student managed work programs. Bresciani (2005) described CCA in terms of workshops, retreats and field studies. Therefore CCA is a broad term and can encompass campus-wide activities, sports, arts, student clubs, departmental or programme activities and activities organized by recognized organizations.

Theories about Student Development

There are two key theories about student development: Astin’s Involvement Theory and Chickering’s Personal Development Theory. Astin’s Involvement Theory describes student involvement as quality and quantity of the physical and psychological energy that students invest in college experience (Astin, 1999). The involvement includes absorption in academic work, participation in extracurricular activities and interaction with institutional personnel. With greater student involvement in schools, the amount of student learning and personal development will also be greater (Astin, 1999). Involvement is an active term and can be interpreted as attach oneself to, commit oneself to, engage in, devote oneself to etc. Astin’s Involvement Theory focuses on the importance of holistic experience and it is believed that success is the sum of total experience including learning and development which may occur inside and outside the classroom.

Chickering’s psychosocial development theory suggests seven directions along which traditional college students develop (Chickering, 1969): achieving intellectual, physical and social competence, becoming autonomous, establishing identity, managing emotions, freeing interpersonal relationships, clarifying purposes, and developing integrity. Both Chickering and Astin believed that the success of a student in terms of whole-person development should be cognitive, affective, and behavioral.

Benefits of Joining CCA

Academic Achievement

Academic achievement is defined as grade point average, educational aspirations and attainment. Some studies have revealed that CCA have a positive impact on students’ academic achievement and commitment (Acquah & Anti Partey, 2014; Kumar & Kumar, 2012; Bashir & Javed, 2012; Balyer & Gunduz, 2012; Dumais, 2009; Lawhorn, 2009; Gardner et al., 2008; Tan & Pope, 2007). Activities also enhance students’ behavioral adjustment and social-emotional competencies, and academic aspirations and attitudes which improve academic performance (Durlak et al., 2011). Students are more confident and try harder and persist in the face of challenges (Aronson, 2002). A study by Hawkins (2010) indicated that student activity organization officers earned a significantly higher grade point average than regular members of the organizations, and student organization members earned a significantly higher grade point average than the general student population.

Socialization

Participation in CCA, particularly sports, can build friendship, teamwork and social support with teammates (Broh, 2002; Smoll & Smith, 2002) and reduce negative emotions such as loneliness or boredom (Shern off & Vandell, 2007). Joining CCA also facilitates socialization, which can serve as a good platform for learning cultural norms, exploring roles, developing social and emotional self-regulation (Reeves, 2008; Larson & Verma, 1999). Participating in CCA enhances social development, provides opportunities to form friendships and develop social skills (Balyer & Gunduz, 2012; Lawhorn, 2009; Yin & Lei, 2007).

Bonding to School

Some previous studies have showed that students' involvement in CCA made it more likely they will stay in school and improve retention rates. Participation in CCA is associated with increasing college attendance and reducing absenteeism (Broh, 2002). Davalos et al. (1999) and Mahoney & Stattin (2000) suggested that involvement in CCA may create a sense of belonging which contributes to higher retention rates and lower drop-out rates.

Competency

Advocates of CCA (Fretwell, 1931; Fozzard, 1967; Sybouts & Krepel, 1984) suggested that involving in CCA enable students communicate effectively, develop healthy minds, moral and ethical values and creative expression. In an informal learning environment, students can build confidence, have better time management and gain a feeling of accomplishment (Denson et al., 2015).

Joining CCA, especially organized sports, provides opportunities for initiative, emotional regulation, persistence, problem solving and time management, which may in turn lead to better academic achievement (Larson et al., 2006). Smoll & Smith's study (2002) indicated that involving in athletics can build perseverance and character and instill a respect for rules. Broh's study (2002) revealed that participating in sports may help to develop self-efficacy, confidence and a feeling of competency. Participating in arts activities may enhance students' creativity, imagination, fluency, and critical and divergent thinking (Burton et al., 2000).

Youth Development

Participation in CCA enables students to cope with challenges in life and discover new meaning in life (Nesan, 2009), facilitates positive youth development and prevents emergence of developmental problems (Eccles et al., 2003; Eccles & Gootman, 2002), fewer developmental problems will improve students' school achievement and educational attainment.

Some sociological and child development studies have shown that more CCA participation results in less involvement in delinquent and risky behaviors (Durlak et al., 2011; Eccles et al., 2003), such as involved in crime (Ross, 2000), use of drugs (Darling et al., 2003) and cigarette smoking (Darling, 2005).

To sum up, participation in CCA brings benefits to students, such as enhance in socialization, general competency, academic performance, school engagement, and better youth development (Elder & Conger, 2000; Marsh & Kleitman, 2002; Barber et al., 2001).

Whole-Person Development of Students in Hong Kong

Providing diverse and rich choices and promoting whole-person development are the core features of the current education system in Hong Kong (Education Bureau, 2012). Apart from providing a wide range of subjects that cover the core learning areas, learning goals cover developing creative thinking, mastering independent learning skills such as critical thinking and self-management, and having healthy lifestyle and appreciation of aesthetic and physical activities. Under the current education system, students' involvement in CCA is implanted in senior high school where students have to participate in Other Learning Experience such as moral and civic education, community service, career-related experiences, and aesthetic and physical development.

As shown in the literature, it is generally believed that participation in CCA brings several advantages. CCA appears to provide students with opportunities to achieve autonomy, skill development and relatedness, which are the three core motivational forces in human nature according to developmental psychologists (Shern off & Vandell, 2007; Ryan & Deci, 2000). As most previous studies about CCA were conducted in western context and in finding out the impact on students, it is time to study more in Hong Kong, an eastern education hub, and students' perceptions on joining CCA which can provide insights for tertiary institutions planning their CCA and resources allocation. Besides, it would be nice if a comparison of perceptions among different specializations or disciplines can be conducted. The aim of this study is to find out perceptions of students with different specializations on joining CCA in order to help tertiary institutions formulate better plans in arranging activities. Specific objectives of the proposed study are:

- To investigate the interest of different disciplines' students in joining CCA,
- To study the understanding of different disciplines' students about CCA,
- To identify the preferred CCA of different disciplines' students, and
- To investigate the expected usefulness of joining CCA perceived by different disciplines' students.

RESEARCH METHODOLOGY

Questionnaire is used to collect primary data for this study. Questions in the questionnaire are adapted from Shern off & Vandell (2007). The questionnaire consists of four parts. Part one asks about personal information of students. Part two asks about the interest of students in joining CCA, students' understanding of CCA and their preferred type / duration / timing of joining CCA. The seven types of activities listed in the questions make reference to those offered in one education institution in Hong Kong. Part three consists of two questions with 7-point Likert scales, asking participants to rank a list of statements that represent their perceptions on the usefulness of CCA and reasons for not joining CCA. Part four is an open-ended question asking their general comments on CCA.

To conduct the analysis, T-test, Chi-square test and z-test were used and correlation and frequency were computed. One sample T-test was used to compare the population mean with a value. ANOVA test was used to compare the population mean with three independent groups. A Chi-square test for the goodness-of-fit was used to test whether data come from a specific underlying distribution. Z-test was used to compare the proportions with 2 independent groups. If p-value is less than α , then null hypothesis is rejected (select $\alpha=0.05$ in this study). Correlation is a measure of linear relationship between two variables. Frequency is a measure of the number of times that an event occurs. The comments or responses to open-ended question were entered into database for analysis.

450 survey forms were distributed to students of two key education institutions in Hong Kong. The sample consists of three major student disciplines: business, social science and communications, and science and technology. 442 respondents returned the completed questionnaires. After removing the incomplete responses, the completed questionnaires amounted to 435. The profile of the respondents is shown in Table 1. 48.3% (n = 210) were male and 51.7% (n = 225) were female. Majority of them (98.4%) were aged from 18 to 25. In regard to programme and level, 57.2% (n = 249) were sub-degree students and 42.8% (n = 186) were degree students, and majority of them belonged to Year 1 (45.2%) and Year 2 (50.2%). Regarding specialization, 57.4% was business, 22.6% was science and technology, 18.4% was social science/communications, and 1.6% was others. As the percentage of others is not significant (1.6% or 7 students), others was grouped into social science / communications for analysis. In the analysis, "Business" was used to represent business discipline, "Science" was used to represent science and technology discipline, "Social science and others" was used to represent social science and communications discipline and other disciplines.

ANALYSIS AND FINDINGS

Students' Interest in Joining CCA

Most "Business", "Science" and "Social Science and others" students showed interest in joining CCA (75.2%, 62.5% and 69% respectively) and agreed that their institutions should provide CCA to them (84.6%, 72.4% and 74.7% respectively).

61.9% "Business" students indicated that they have participated in CCA at their institutions, and majority of them (82.6%) indicated that they participated in one to two activities at one time. For "Science" students, 48.5% indicated that they have participated in CCA and majority of them (85.1%) participated in one to two activities at one time. For "Social Science and others" students, 52.4% indicated that they have participated in CCA and majority of them (84.1%) participated in one to two activities at one time.

Among the seven types of activities, the most three popular activities for "Business" students joined were further studies and career development (30%), growth and development (27.1%), and service learning (20%). The most three popular activities for "Social Science and others" students joined were further studies and career development (32.1%), growth and development (20.5%), and service learning (16.7%). To "Science" students, growth and development was their top priority (34.2%), further studies and career development (27.4%) was the second and service learning (26%) was the third.

Students' Understanding OF CCA

Most "Business" and "Science" students indicated that they have heard about CCA at their education institutions (70.7% and 63.9% respectively) while around half of the "Social Science and others" students indicated that they have heard about CCA at their education institutions (54.7%).

The first two common channels for "Business" and "Social science and others" students were similar. The channels "Business" students got CCA information were mainly from emails (35%), leaflets and posters (22.9%), and teachers and counsellors (20.1%). The channels "Social Science and others" students got CCA information were mainly from emails (35.5%), leaflets and posters (23.4%), and other students (15.9%). "Science" students got information mostly from teachers and counsellors (30.2%), next was from emails (25.2%), and the third place was from leaflets and posters (24.4%).

Relationship between Interest and Understanding

To “Business”, “Science” and “Social Science and others” students, the result showed a high positive correlation between students understanding and interest in CCA (Q1 and Q3: $r = 0.40291$) (Table 3 – Correlation among choices: “Business” students) (Q1 and Q3: $r = 0.47677$) (Table 4 – Correlation among choices: “Science” students) (Q1 and Q3: $r = 0.468362$) (Table 5 – Correlation among choices: “Social Science and others” students).

Similar to the whole sample, “Science” and “Social Science and others” students who were interested in joining CCA also preferred schools provide CCA to them (Q3 and Q4: $r = 0.520924$ and $r = 0.524297$ respectively).

Preferred CCA

For “Business” and “Social Science and others” students, they preferred study tour and exchange the most (46% and 40% respectively), growth and development the second (23.8% and 26.7% respectively), and further studies and career development the third (17.8% and 24% respectively) among the seven choices. “Science” students preferred further studies and career development (32.9%), growth and development (31.8%), and study tour and exchange (20%) most among the seven choices.

“Business” students preferred study tour and exchange more than other activities. There was significant difference between study tour and exchange and other choices ($p < 0.05$) in “Business” students. There was significant difference between further studies and career development and other choices ($p < 0.05$) in “Science” students; and there was significant difference between study tour and career development and other choices ($p < 0.05$) in “Social Science and others” students.

The most preferred timing “Business” and “Science” students would like to participate in CCA was June to August with about half of the respondents (47.8% and 48.4% respectively) preferred June to August, and the next preferred time was September to November (19% and 22.1% respectively). The third preferred time was December (10.2% and 13.7% respectively). There was significant difference between June to August and other choices ($p < 0.05$). The results were very close to that of the whole sample in these aspects.

To “Social Science and others” students, June to August (48.8%) and September to November (13.8%) were also the top two preferred timing, while their third choice was January (11.3%). There was significant difference between June to August and other choices ($p < 0.05$).

The least preferred timing is: January to “Business” students, May to “Science” students, and December / February to April / May to “Social science and others” students. Some students commented that they would love to join study tour but it was expensive and took more time. It would be good if schools could subsidize them and arrange tour in summer.

If “Business” and “Social Science and others” students have to participate in an activity, the top three preferred durations were one to three hours (30.2% and 41.5% respectively), across one week (28.1% and 24.4% respectively), and across one semester (22.7% and 20.7% respectively). Their least preferred choice was activity across two semesters (2.9% and 3.7% respectively). There was significant difference among the choices, one to three hours was the most popular one ($p < 0.05$). The results again were very close to that of the whole sample.

If "Science" students have to participate in an activity, the top priority was also one to three hours (38.5%), the second was 1 day (27.1%) and the third was across one week (26%). The one least preferred was activity across two semesters (2.1%). There was significant difference among the choices, one to three hours was the most popular one ($p < 0.05$).

Perceptions on Usefulness of CCA

More than 50% "Business" students agreed that CCA would help increasing further study opportunities, increasing job opportunities, brushing up presentation skills, and brushing up interview skills. Increase in further studies opportunities (67.4%) scored highest percentage of agreement in "Business" students. Their priority was: increase further study opportunities, increase job opportunities, brush up presentation skills, brush up interview skills and upgrade grade point average. 45.3% of "Business" students were neutral to participate in CCA would help upgrade their grade point average, and only 34.2% of "Business" students agreed that CCA would help them upgrade their grade point average. The result was quite close to that of the whole sample. However, more percentage in "Business" students than whole sample agreed that participating in CCA would help increase in job opportunities. The difference was 7.1%. One sample t-test also indicated that "Business" students preferred to select the agreed side relating to all the five suggested reasons for joining CCA.

To "Business" students, four suggested reasons for joining CCA (increase further study opportunities, increase job opportunities, brush up presentation skills and brush up interview skills) have high positive correlation between each other (all $r > 0.5$) (Table 3). The result showed student who gave high (low) score in any one factor would also give high (low) score in other factors. Therefore, four factors are dependent factors and remaining factor is an independent factor.

Unlike "Business" students, "Social science and others" students only agreed that CCA would help increasing further study opportunities by more than 50% (other reasons: below 50%) among the five suggested reasons. Their priority was: increase further study opportunities, increase job opportunities, brush up interview skills, brush up presentation skills, and upgrade grade point average. 45.3% were neutral to participate in CCA would help upgrade their grade point average, and 36.1% agreed that CCA would help them upgrade their grade point average. By using ANOVA test for proportions, it is interesting to find that the percentages of agreement in the five reasons are all unequal among three specializations. It indicated that fewer social science students find joining CCA was helpful in different aspects when comparing to other two groups.

More than 50% "Science" students agreed that CCA would help upgrading their grade point average, increasing further study opportunities, increasing job opportunities, brushing up presentation skills, and brushing up interview skills. One sample t-test also indicated that "Science" students preferred to select the agreed side relating to all the five suggested reasons for joining CCA. Increase in further studies opportunities (60.2%) scored highest percentage of agreement in "Science" students. Their priority was: increase further study opportunities, brush up presentation skills, increase job opportunities, upgrade grade point average and brush up interview skills.

Reasons for Not Joining CCA

Most students agreed that they have to spend more time to study and could not join CCA. However, there was a gap of around 20% in the degree of agreement about need more time to study between "Business" and "Social Science and others" students, and between "Science" and "Social Science and others" students. By using ANOVA (with significant

level 5%), similar result was generated. There was significant difference among three specializations on student of agreement about need more time to study ($p < 0.05$).

The priority for “Business” students was: need more time to study, no friends accompany, fees are high, joining CCA may not be useful, and not interested. Result of one sample t-test also indicated that “Business” students preferred to select agreed side relating to need more time to study, no friends accompany and fees are high. The priority for “Social science and others” students was: need more time to study, not interested, no friends accompany, fees are high and joining may not be useful. The priority for “Science” students was: need more time to study, joining may not be useful, no friends accompany, not interested and fees are high. Result of one sample t-test also indicated that “Social science and others” and “Science” students tended to select agreed side relating to need more time to study.

About 22% to 26% “Social science and others” students rated slightly agree to strongly agree for the other four reasons while the range in “Business” students was 30% to 44% and in “Science” students was 23% to 38%. By using ANOVA test for proportions, the result indicated that the percentages of agreement for the two reasons (joining may not be useful and not interested) are equal among three specializations.

DISCUSSIONS AND RECOMMENDATIONS

Interest& Types of CCA

Majority of “Business”, “Science” and “Social Science and others” students are interested in participating in CCA and agree that their schools should provide CCA. The result is consistent with that of Agnihotri & Sikka (2013) and Mawi & Maisnam (2014), majority of the students perceive that they should participate in CCA organized in schools and are interested in CCA the schools provide respectively. Therefore tertiary institutions should continue to provide CCA to students. However, the types of CCA provided may be different for students of different divisions. Based on what students have joined, “Business” and “Social Science and others” can consider providing more activities on further studies and career development (e.g. career and study talks, job placement, celebrity talks). Nevertheless, it is interesting to note that based on the preferred type of CCA these students want, they prefer study tours and exchanges most. The activity most of them participated in is different from the one they most preferred. They prefer study tours and exchanges more but in practice they joined further studies and career development more. This may be due to the time and money involved in tours, and the perceived usefulness of further studies and career development. Some students of these divisions commented that study tours and exchanges require them to invest more time and financial support. They may not be able to afford it. Business people are usually considered as more pragmatic and materialistic. By joining further studies and career development activities, business students expect to acquire useful skills for future career and studies development. Some business schools emphasize career enhancing and salary increasing aspects of business education (Pfeffer & Fong, 2004). It is not difficult to understand why business students embrace activities relating to studies and career development instead of study tours even though they would love to take them. Social science students are believed prefer a deep approach to learning (Parpala et al., 2010), and they will have more thought on future development, therefore it is not surprising that they join further studies and career development activities more to equip themselves for better future development.

To “Science” students, they have actually joined more on growth and development activities. The division can consider providing more activities relating to growth and development (e.g. mentorship, leadership training, physical education and language enhancement). Their reasons for participating in growth and development activities may be due to a desire to enhance their soft skills and widen their network. As “Science” students are in general more rule-based and

adopt scientific approach to handle issues, they may want to learn people skills and enhance their language ability through taking part in mentorship or leadership or language training for future growth. Students view participation in CCA as an avenue to develop relationships (Tamsen & Bissonnette, 2008), and develop leadership and other skills which can help them later on in their journey (Tamsen & Bissonnette, 2008). Again it is interesting to note that based on the preferred type “Science” students want to join, they prefer further studies and career development activities the most.

Students of different disciplines may have different concerns and therefore their preferred and participated activities are different. Different divisions can make reference to the result and organize relevant activities for their students.

Understanding on CCA

Majority of students from the 3 disciplines have heard about CCA through their education institutions. When they have heard about CCA, they are more interested in or have a higher chance of participating in CCA. Education providers should then promote information about CCA more through appropriate channels in order to attract students' interest and participation.

To “Business” and “Social Science and others” students, email is the most popular channel and leaflets / posters is the second popular channel they received information on CCA. To “Science” students, the most popular channel they get information on CCA is from teachers / counsellors and the next channel is via email.

Electronic channel is popular and well-received by students because it is convenient. Education providers can consider continuing using electronic channels such as emails or phone messages, encouraging teachers / counsellors to promote CCA to students in lessons or consultation period, and encourage inactivities' organizers to promote the activities via leaflets / posters.

The common channels where both groups of students get CCA information are consistent with those of the study of Tamsen & Bissonnette (2008). Activities should be advertised through various available routes, and the advertising should be designed to appeal to student interests and mention the benefits students get after joining.

Preferred Timing

Majority students of the 3 disciplines prefer June to August the most, it may be due to they can take a break during summer period and have more leisure time and energy to take part in activities. To “Business” students, January is the least preferred timing; to “Science” students, May is the least preferred timing; to “Social Science and others” students, December, February to April, and May are the least preferred time periods. “Social Science and others” students have more concerns about the timing. It is understood that December and May are the examination periods, students have to pay attention to studies to achieve better academic result. The result is consistent with the study of Leung et al. (2011) and Tamsen & Bissonnette (2008), students do not prefer activities near examinations or when papers are due. January is not preferred by most business students, this may be due to shortening of the semester break and students are busy with interviews for jobs or internships. Education providers should try to arrange activities in June to August and avoid those not preferred periods.

Preferred Duration

Majority of students from 3 disciplines prefer one to three hours the most, this finding is consistent with that of

the study of (Tamsen & Bissonnette, 2008). Students in general prefer a short duration more. Education institutions can try to arrange activities with shorter duration which can be completed in a few hours. It is interesting to note the thoughts of students are quite contradictory especially in “Business” and “Social Science and others” students. They prefer study tours and exchanges most, which should be longer, but they prefer a short duration for an activity. However, their preferred duration is consistent with the most popular activity they usually joined, further studies and career development. Further studies and career development cover career or study talks, which are usually completed within a few hours.

Usefulness of CCA

Majority of students from the 3 disciplines perceived joining CCA can help them increase further study opportunities. This is consistent with the most popular joined activity: further studies and career development which provide study talks in “Business” and “Social Science and others”. Further studies and career development is also the second popular activity in “Science” students. To benefit the students, educational institutions can arrange more activities related to further studies and career development.

Among the five choices, perceptions of “Business” and “Social Science and others” students are quite similar. They perceive increasing further study opportunities and job opportunities as the first and second most important, and upgrading GPA as the least important. To “Science” students, their order of perceptions is quite different from that of the other 2 disciplines’ students except for the most important one: increase further study opportunities.

“Science” students perceive joining CCA can help brushing up presentation skills, and this may be why growth and development is the most popular activity to them. Growth and development activities cover ment or ship programme, leadership training and language enhancement which can help enhancing presentation, language and interpersonal skills. Science students understand that having strong soft skills is important for future growth. Organizers of “Science” should consider arranging more activities on growth and development which students believe are useful and insightful.

In general, majority of students perceive participation in CCA as useful and the findings are consistent with the results of Lanjewar (2014) that CCA can enhance skills and value addition.

Reasons for not participating in CCA

Majority of students from the 3 disciplines agree that time needed to study is the most important factor for not taking part in CCA. They fear taking part in CCA may adversely affect their studies. Consistent with the study of (Tamsen & Bissonnette, 2008), students who do not get involved in CCA are most likely spending time studying and doing their homework. The result also indicates that time management is a major concern of students. Education providers should try to teach students how to have better time management in order to encourage them to participate in CCA, which in general are believed to be useful.

There is no similar ordering among the other four choices for why not joining CCA for the 3 disciplines. Students of the 3 disciplines have different ordering in reasons for not joining CCA. Nonetheless, need more time to study is the most important reason to majority of them. In Hong Kong, most parents have put strong emphasis on their children’s academic performance. They believe better academic achievement means better future. Such belief is consistent with the result of the Hofstede Center’s study in Hong Kong: the scores for masculinity and long term orientation are high. The high score for masculinity means the society is driven by competition and success. Students in school care very much about their exam scores and ranking as this is the main criteria to achieve success. The high score of long term orientation means

the society takes a more practical approach and people encourage thrift and endeavors in modern education as a way to prepare for better future.

CONCLUSIONS

The results provide insights for education institutions in resource allocation and arranging activities for students of different disciplines. Majority of students are interested and have an understanding of CCA. Therefore providing CCA to students is essential. As the concerns and preferences of different disciplines' students are different in some aspects, the results provide more insights to institutions educating different groups of students. To "Business" and "Social Science and others" students, education providers can provide more on further studies and career development with more emphasis on pursuing further study and job opportunities during the summer with shorter duration. To "Science" students, education providers can provide more on growth and development with more emphasis on brushing up interview and presentation skills during the summer. Furthermore, schools can also provide workshop on time management which is a concern of students in allocating time among tasks including joining CCA.

Concerted efforts of student affairs professionals and academic staff will provide synergy to provide different types of activities to enhance students' whole-person development. For instance, time management workshop can be arranged by student affairs officer, and company visits of certain disciplines can be arranged by departments or programmes. As having time to study is a major concern of most students, different disciplines or departments may also consider incorporating some activities into students' subjects or programmes so that students can enjoy the benefits of participating in activities and study at the same time. Leung et al. (2011) suggested that CCA should be designed and integrated with the core curriculum.

LIMITATIONS AND FUTURE RESEARCH

This study provides useful ideas for education institutions to plan CCA for students of different disciplines. However, majority of respondents come from two schools only and the choices of activities in the questions are mainly based on the types provided in one school. To make the analysis easier, students are grouped into three disciplines only. The results may show some bias and cannot be generalized to draw conclusions for the tertiary education sector. Furthermore, there is no comparison on perceptions of students before and after joining CCA.

For future research, similar analysis can be carried out in more schools and make reference to the activity choices of more institutions in order to make the results more representative. It is worthwhile having a longitudinal study to investigate the pre and post situation of students in participating in CCA. It is also worthwhile studying how CCA would enhance students learning and its relationship with different learning outcomes in future.

Table 1: Profile of Respondents (In Frequency)

Sample Size				
	Total	Business	Science	Social Science and Others
N	435	249	98	87
Gender	%	%	%	%
	Total	Business	Science	Social Science and Others
Male	48.3	38.6	83.5	36.8
Female	51.7	61.4	16.5	63.2
Age				
	Total	Business	Science	Social Science and Others

Table 1: Contd.,				
Below 18	1.4	1.2	0	3.4
18-25	98.4	98.8	99	96.6
Above 25	0.2	0	1	0
School Year				
Total	Business	Science	Social Science and Others	
Year 1	45.2	33.1	46.4	78.2
Year 2	50.2	62.1	47.4	19.5
Year 3	4.6	4.8	6.2	2.3
Year 4	0	0	0	0
Programme				
Total	Business	Science	Social Science and Others	
Sub-degree	57.2	46.2	64.9	79.3
Degree	42.8	53.8	35.1	20.7

Table 2: Correlations among Choices: All Students

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
	Part 1					Part 2					Part 3										
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11a	Q11b	Q11c	Q11d	Q11e	Q12a	Q12b	Q12c	Q12d	Q12e	
6	Q1	1	-0.05174	-0.06362	-0.11581	-0.07704	-0.03101	-0.08407	-0.02494	-0.00407	0.069265	-0.07306	0.113532	0.063633	0.042308	0.106296	0.116169	0.122288	-0.02561	0.092641	0.014768
7	Q2	-0.05174	1	0.062133	0.005259	0.065381	0.017853	0.046058	0.005351	0.047436	0.058031	-0.0474	-0.06335	-0.03461	-0.07304	-0.02488	0.038939	0.09068	0.100264	0.040034	0.03373
8	Q3	-0.06362	0.062133	1	0.471713	-0.04056	-0.02148	0.016401	-0.06888	-0.04459	0.082624	-0.0394	-0.02258	0.097583	0.049376	0.006533	0.018333	0.034623	0.059887	0.005063	0.035022
9	Q4	-0.11581	0.005259	0.471713	1	-0.03517	-0.07326	-0.0486	-0.0251	-0.09874	0.143569	0.071692	0.00531	0.162748	0.06022	-0.05841	-0.15801	0.035119	0.010411	-0.08876	-0.01053
10	Q1	-0.07704	0.065381	-0.04056	-0.03517	1	0.440522	0.385571	0.455336	-0.05736	-0.02155	0.019353	-0.04582	-0.0699	-0.04878	-0.00588	0.007058	0.140124	0.156731	0.080884	0.104935
11	Q3	-0.03101	0.017853	-0.02148	-0.07326	0.440522	1	0.422941	0.396361	-0.06198	-0.136	-0.125	-0.1849	-0.17418	-0.14007	-0.09661	0.008055	0.026593	0.189637	0.090934	0.141098
12	Q4	-0.08407	0.046058	0.016401	-0.0486	0.385571	0.422941	1	0.281827	-0.07081	0.028783	-0.01695	-0.16135	-0.13173	-0.08479	-0.08221	-0.00216	0.069089	0.109357	0.067701	0.10238
13	Q5	-0.02494	0.005351	-0.06888	-0.0251	0.455336	0.396361	0.281827	1	n.a.	0.077556	-0.02182	-0.11682	-0.05093	-0.07421	-0.04695	0.018835	0.062167	0.121179	0.042866	0.046936
14	Q6	-0.00407	0.047436	-0.04459	-0.09874	-0.05736	-0.06198	-0.07081	n.a.	0.14133	-0.04755	-0.02455	-0.02454	0.049356	0.054116	-0.02928	-0.01014	-0.13812	-0.07038	-0.13218	-0.07377
15	Q10	0.069265	0.058031	0.082624	0.143569	-0.02155	-0.136	0.028783	0.077556	0.14133		0.001441	0.117094	0.199616	0.183077	0.160176	0.056407	0.154805	-0.06543	-0.09558	-0.055
16	Q11a	-0.07306	-0.0474	-0.0394	0.071692	0.019353	-0.125	-0.01695	-0.02182	-0.04755	0.001441		0.510367	0.414912	0.34351	0.285016	-0.06788	0.059626	-0.06681	-0.03769	-0.05181
17	Q11b	0.113532	-0.06335	-0.02258	0.00531	-0.04582	-0.1849	-0.16135	-0.11682	-0.02454	0.117094	0.510367		0.664902	0.589444	0.549191	0.188538	0.118815	-0.03	0.027091	-0.05045
18	Q11c	0.063633	-0.03461	0.097583	0.162748	-0.0699	-0.17418	-0.13173	-0.05093	0.049356	0.199616	0.414912	0.664902		0.702315	0.608689	0.155795	0.081926	0.060675	0.063485	-0.03323
19	Q11d	0.042308	-0.07304	0.049376	0.06022	-0.04878	-0.14007	-0.08479	-0.07421	0.054116	0.183077	0.34351	0.589444	0.702315		0.796297	0.162327	0.092435	0.005517	0.049186	-0.02066
20	Q11e	0.106296	-0.02488	0.006533	-0.05841	-0.00588	-0.09661	-0.08221	-0.04695	-0.02928	0.160176	0.285016	0.549191	0.608689	0.796297		0.269603	0.183478	0.026357	0.072332	0.019197
21	Q12a	0.116169	0.038939	0.01833	-0.15801	0.007058	0.008055	-0.00216	0.018835	-0.01014	0.056407	-0.06788	0.188538	0.155795	0.162327	0.269603		0.300905	0.256349	0.312717	0.316268
22	Q12b	0.122288	0.09068	0.034623	0.035119	0.140124	0.026593	0.069089	0.062167	-0.13812	0.154805	0.059626	0.118815	0.081926	0.092435	0.183478	0.300905		0.312886	0.279587	0.279587
23	Q12c	-0.02561	0.100264	0.059887	0.010411	0.156731	0.189637	0.109357	0.121179	-0.07038	-0.06543	-0.06681	-0.03	0.060675	0.005517	0.026357	0.256349	0.312886		0.510451	0.52888
24	Q12d	0.092641	0.040034	0.005063	-0.08876	0.080884	0.090934	0.067701	0.042866	-0.13218	-0.09558	-0.03769	0.027091	0.063485	0.049186	0.027332	0.312717	0.291724	0.510451		0.509137
25	Q12e	0.014768	0.03373	0.035022	-0.01053	0.104935	0.141098	0.10238	0.046936	-0.07377	-0.055	-0.05181	-0.05045	-0.03323	-0.02066	0.019197	0.316268	0.279587	0.52888	0.509137	

Table 3: Correlation among Choices: “Business” Students

	Q1	Q2	Q3	Q4	Q1	Q3	Q4	Q5	Q6	Q10	Q11a	Q11b	Q11c	Q11d	Q11e	Q12a	Q12b	Q12c	Q12d	Q12e
6 Q1		-0.1185	-0.09225	-0.13799	-0.08801	0.03483	-0.02833	-0.02507	-0.00782	-0.00737	-0.01392	0.143831	0.034446	0.040187	0.127015	0.092134	0.114624	-0.06533	0.001441	0.011805
7 Q2	-0.1185		0.14516	0.045369	0.071121	0.063802	0.047281	0.010787	0.050347	0.078622	-0.06333	-0.07899	-0.04137	-0.01422	0.082424	0.013315	0.068542	0.079487	0.024555	0.001693
8 Q3	-0.09225	0.14516		0.485366	0.074462	0.106445	0.07521	-0.04028	-0.10005	0.037505	-0.14116	-0.12206	0.046643	-0.02477	-0.05855	0.043359	0.113338	0.178775	0.053226	0.066627
9 Q4	-0.13799	0.045369	0.485366		0.225005	0.1515	0.102156	0.207153	-0.12884	0.196249	-0.05281	-0.04216	0.171396	0.129136	-0.00652	-0.11202	0.162795	0.132702	-0.04847	0.118858
10 Q1	-0.08801	0.071121	0.074462	0.225005		0.402912	0.373817	0.55237	-0.0252	0.000247	0.025141	-0.06622	-0.02768	-0.02805	-0.01796	-0.00563	0.165143	0.170694	0.088151	0.088151
11 Q3	0.03483	0.063802	0.106445	0.1515	0.402912		0.301554	0.439596	-0.03508	-0.13003	-0.0925	-0.1765	-0.08548	-0.15473	-0.11661	-0.0018	0.0089	0.2464	0.097605	0.109733
12 Q4	-0.02833	0.047281	0.07521	0.102156	0.373817	0.301554		0.31289	0.038601	-0.00245	-0.20754	-0.10104	-0.07514	-0.08105	-0.0193	0.079739	0.104447	0.133923	0.106874	0.106874
13 Q5	-0.02507	0.010787	-0.04028	0.207153	0.55237	0.439596	0.31289		0.083381	0.033607	-0.06644	-0.00351	-0.03954	-0.05151	-0.02063	0.124313	0.158188	0.093959	-0.00403	-0.00403
14 Q6	-0.00782	0.050347	-0.10005	-0.12884	-0.0252	-0.03508	-0.02731	1.n.a.		0.081787	-0.04308	0.035363	0.094707	0.096987	0.029462	0.066504	-0.16054	-0.10072	-0.07972	-0.02518
15 Q10	-0.00737	0.078622	0.037505	0.196249	0.000247	-0.13003	0.038601	0.03381	0.087187		0.09138	0.117157	0.221171	0.202782	0.196366	0.065273	0.169447	-0.07284	-0.14935	-0.06156
16 Q11a	-0.01392	-0.06333	-0.14116	-0.05281	0.025141	-0.0925	-0.00245	0.033607	-0.04308	-0.09138		0.428994	0.313596	0.309982	0.266807	-0.03367	0.048707	-0.0954	-0.07494	-0.04644
17 Q11b	0.143831	-0.07899	-0.12206	-0.04216	-0.06622	-0.1765	-0.20754	-0.06644	0.035363	0.117157	0.428994		0.631947	0.532549	0.492922	0.193505	0.088193	-0.06005	-0.02852	-0.04565
18 Q11c	0.034446	-0.04137	0.046643	0.171396	-0.02768	-0.08548	-0.10104	-0.00351	0.094707	0.221171	0.313596	0.631947		0.729521	0.599718	0.190806	0.075544	0.003805	0.028535	-0.00882
19 Q11d	0.040187	-0.01422	-0.02477	0.129136	-0.02805	-0.15473	-0.07514	-0.03954	0.096987	0.202782	0.532549	0.729521	0.729521		0.760963	0.099655	0.066105	-0.05046	-0.04807	-0.03792
20 Q11e	0.127015	0.082424	-0.05855	-0.00652	-0.01796	-0.11661	-0.08105	-0.05151	0.029462	0.196366	0.266807	0.492922	0.599718	0.760963		0.215694	0.184074	-0.04324	-0.0059	-0.01085
21 Q12a	0.092134	0.113315	0.043359	-0.11202	-0.00563	-0.0018	-0.0193	0.02063	0.066504	0.065273	-0.03367	0.193505	0.190806	0.099655	0.215694		0.28207	0.133147	0.231732	0.301673
22 Q12b	0.114624	0.068542	0.113338	0.162795	0.165143	0.0089	0.079739	0.124313	-0.16054	0.169447	0.048707	0.088193	0.075544	0.066105	0.184074	0.28207		0.249999	0.194841	0.163495
23 Q12c	-0.06533	0.079487	0.178775	0.132702	0.170694	0.2464	0.104447	0.158188	-0.10172	-0.07284	-0.0954	-0.06005	0.003805	-0.05046	-0.04324	0.133147	0.249999		0.466072	0.466623
24 Q12d	0.001441	0.024555	0.053226	-0.04847	0.135601	0.097605	0.133923	0.093959	-0.07972	-0.14935	-0.07494	-0.02852	0.028535	-0.04807	-0.0059	0.231732	0.194841	0.466072		0.494786
25 Q12e	0.011805	0.001693	0.066627	0.118858	0.088151	0.109733	0.106874	-0.00403	-0.02518	-0.06651	-0.04644	-0.04565	-0.00882	-0.04379	-0.01085	0.301673	0.163495	0.466623	0.494786	

Table 4: Correlation among Choices: “Science” Students

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
5	Q1	Q2	Q3	Q4	Q1	Q3	Q4	Q5	Q6	Q10	Q11a	Q11b	Q11c	Q11d	Q11e	Q12a	Q12b	Q12c	Q12d	Q12e	
6	Q1	-0.04415	0.023094	0.019481	-0.04839	-0.05217	-0.09009	0.046595	-0.00714	-0.02722	0.045593	0.112201	0.087454	-0.09466	-0.05777	0.038963	0.029763	-0.11036	0.089694	0.020392	
7	Q2	-0.04415	0.038546	0.068876	-0.07598	-0.07878	-0.06339	0.10482	0.01	0.191292	-0.04927	-0.04264	0.037154	-0.0664	-0.05609	-0.1429	0.01268	-0.08678	-0.09087		
8	Q3	0.023094	0.068876	0.01	0.30186	-0.05564	-0.09462	-0.0055	-0.09135	-0.14652	0.114787	0.083038	0.008913	0.054402	0.07196	0.05371	-0.02983	-0.01805	-0.03642	-0.066758	
9	Q4	0.019481	0.038546	0.30186	-0.042518	-0.04972	-0.20065	-0.388	0.152894	-0.1189	0.044004	0.040812	0.034061	-0.15376	-0.27187	-0.24165	-0.1669	-0.03931	-0.24829	-0.1487	
10	Q1	-0.04839	-0.07598	-0.05564	-0.42518	0.01	0.47677	0.3629231	0.352213	0.0517	0.050866	-0.12511	-0.11665	-0.20252	-0.19644	-0.06571	0.02305	0.152881	0.113668	0.0747	
11	Q3	-0.05217	-0.07878	-0.09462	-0.41972	0.47677	0.01	0.520924	0.279446	-0.04628	-0.05619	-0.28511	-0.3118	-0.36241	-0.15603	-0.12218	0.04412	0.122702	0.180742	0.1933	
12	Q4	-0.09009	-0.06339	-0.0055	-0.20065	0.362923	0.520924	0.01	0.307277	-0.16003	0.031022	-0.12012	-0.2197	-0.21538	-0.15289	-0.1167	0.062661	0.076358	0.229378	0.110747	
13	Q5	0.046595	0.004482	-0.09135	-0.388	0.352213	0.279446	0.307277	1.n.a.	0.020093	-0.26043	-0.1967	-0.09609	-0.08283	-0.00185	0.10859	0.052747	0.17536	0.025475	0.165373	
14	Q6	-0.00714	0.023094	-0.14652	0.152894	-0.00517	0.046286	-0.16003	n.a.	0.12622	0.082629	-0.06828	0.03181	0.17848	-0.06446	-0.15809	0.19345	0.008716	0.0	-0.09726	
15	Q10	-0.02722	0.191292	0.114787	0.1189	0.050866	-0.05619	0.03012	0.200953	0.12622	0.128102	0.009343	0.105013	0.052494	-0.3694	-0.09127	0.054323	-0.1514	-0.07749	-0.02856	
16	Q11a	0.045593	-0.04927	0.083038	0.044004	-0.12511	-0.28511	-0.12012	-0.26043	0.189269	0.218202	0.1	0.614285	0.409103	0.220796	0.071942	-0.06304	0.146781	-0.13762	-0.018038	
17	Q11b	0.112201	-0.04264	0.008913	0.040812	-0.11665	-0.3118	-0.2197	-0.1967	-0.06828	0.002343	0.614285		0.5896	-0.462776	0.379963	0.140589	0.081411	-0.2397	-0.02941	
18	Q11c	0.087454	0.037154	0.054402	0.043061	-0.20252	-0.36241	-0.21538	-0.06098	0.01381	0.105013	0.409103	0.5896	0.462776	0.541959	0.4647	0.131067	0.007786	-0.1418	-0.010943	
19	Q11d	-0.09466	0.061754	0.07196	-0.15376	-0.19644	-0.352213	-0.15289	-0.08283	0.01788	0.052494	0.220796	-0.462776	0.541959	0.1	0.741087	0.25	0.156254	-0.08579	-0.203531	
20	Q11e	-0.05777	-0.05609	0.05371	-0.27187	-0.06571	-0.12218	-0.1167	-0.00185	-0.06446	-0.03694	0.071942	0.379963	0.4647	0.741087	0.1	0.41937	0.134802	-0.05552	-0.12345	
21	Q12a	-0.05777	-0.05609	0.05371	-0.27187	-0.06571	-0.12218	-0.1167	-0.00185	-0.06446	-0.03694	0.071942	0.379963	0.4647	0.741087	0.1	0.41937	0.134802	-0.05552	-0.12345	
22	Q12b	-0.029763	0.012681	-0.01805	-0.1669	0.152881	0.122702	0.076358	0.052747	0.19345	0.054323	0.146781	0.081411	-0.2397	-0.02941	0.076358	0.134802	0.260821	0.357444	0.406941	
23	Q12c	-0.11036	0.09087	-0.03642	-0.08391	0.111368	0.108742	0.229378	0.17536	0.060816	-0.1514	-0.13762	-0.2397	-0.17188	-0.08579	-0.052595	0.235881	0.357444	0.1	0.468252	
24	Q12d	0.089694	-0.08678	-0.1487	-0.22329	0.047747	0.1932	0.110747	0.025475	0.01	-0.07749	0.018038	0.026149	0.003494	0.203531	0.11235	0.294437	0.406941	0.468252	0.1	
25	Q12e	0.020392	-0.09087	0.066758	-0.1487	0.080099	0.263963	0.179323	0.165373	-0.09726	-0.02856	-0.20192	-0.22344	-0.17683	-0.05289	-0.26467	0.164151	0.280341	0.601524	0.450881	

Table 5: Correlation among Choices: "Social Science and Others" Students

	Q1	Q2	Q3	Q4	Q1	Q3	Q4	Q5	Q6	Q10	Q11a	Q11b	Q11c	Q11d	Q11e	Q12a	Q12b	Q12c	Q12d	Q12e
5																				
6 Q1	1	-0.01351	-0.11334	-0.43423	-0.04582	-0.00355	-0.0498	0.090721	-0.23382	0.122678	-0.19586	0.032508	-0.00293	0.075011	0.107882	0.255583	0.088821	0.100343	0.258207	0.028728
7 Q2	-0.01351	1	-0.16792	-0.2145	0.173183	-0.00939	0.109945	-0.0734	0.061939	-0.01779	-0.04995	-0.04399	-0.07322	-0.17848	-0.17873	0.171083	0.212297	0.223621	0.139413	0.173962
8 Q3	-0.11334	-0.16792	1	0.394542	-0.1226	-0.18257	0.093352	0.023303	0.114651	0.12364	0.152758	0.059779	0.1113	0.07932	0.021455	-0.12848	-0.23794	-0.09975	-0.07897	-0.19652
9 Q4	-0.43423	-0.2145	0.394542	1	-0.18159	-0.21996	-0.1013	-0.1956	-0.13028	-0.13387	0.271948	-0.01746	0.098491	-0.08568	-0.15325	-0.39797	-0.32738	-0.25653	-0.23945	-0.31852
10 Q1	-0.04582	0.173183	-0.1226	-0.18159	1	0.468362	0.375971	0.27522	-0.0908	-0.08967	0.132043	0.115692	0.040801	0.103742	0.142156	0.0748	0.108587	0.143186	0.035427	0.166268
11 Q3	-0.00355	-0.00939	-0.18257	-0.21996	0.468362	1	0.524297	0.364566	-0.17666	-0.15429	-0.09626	-0.04921	-0.14369	-0.04635	0.025736	0.029894	0.036011	0.052326	0.025081	0.086716
12 Q4	-0.0498	0.109945	0.093352	-0.1013	0.375971	0.524297	1	0.110096	-0.09408	0.107561	0.012357	0.0296	-0.02971	0.027878	0.010623	0.015945	0.107004	-0.00266	-0.04855	0.013321
13 Q5	0.090721	-0.0734	0.023303	-0.1956	0.27522	0.364566	0.110096	1	0.036063	0.02493	-0.11738	-0.08473	-0.10331	-0.03079	0.060597	-0.06516	-0.04408	-0.02426	0.055822	
14 Q6	-0.23382	0.061939	0.114651	-0.13028	-0.0908	-0.17666	-0.09408	0.036063	1	0.402061	-0.09572	-0.23263	-0.18186	-0.15204	-0.23734	-0.24996	-0.28189	-0.37027	-0.44389	-0.3462
15 Q10	0.122678	-0.01779	0.12364	-0.13387	-0.08967	-0.15429	0.107561	0.036063	0.402061	1	0.130819	0.178178	0.152324	0.177166	0.17001	0.138637	0.138979	0.024529	-0.03928	-0.04866
16 Q11a	-0.19586	-0.04995	0.152758	0.271948	0.132043	-0.09626	0.012357	0.02493	-0.09572	0.130819	1	0.660116	0.782483	0.594718	0.576014	-0.14999	0.06506	0.085993	0.049031	0.094604
17 Q11b	0.032508	-0.04399	0.059779	-0.01746	0.115692	-0.04921	0.0296	-0.11738	-0.23263	0.178178	0.660116	1	0.796267	0.804929	0.811059	0.202971	0.217787	0.236882	0.127568	0.113506
18 Q11c	-0.00293	-0.07322	0.1113	0.098491	0.040801	-0.14369	-0.02971	-0.08473	-0.18186	0.152324	0.782483	0.796267	1	0.754762	0.743958	0.056266	0.115042	0.173875	0.148443	0.051109
19 Q11d	0.075011	-0.17848	0.07932	-0.08568	0.103742	-0.04635	0.027878	-0.10331	-0.15204	0.177166	0.594718	0.804929	0.754762	1	0.918197	0.211979	0.07948	0.256004	0.117201	0.07103
20 Q11e	0.107882	-0.17873	0.021455	-0.15325	0.142156	0.025736	0.010623	-0.03079	-0.23734	0.17001	0.576014	0.811059	0.743958	0.918197	1	0.244355	0.19563	0.313484	0.197302	0.195628
21 Q12a	0.255583	0.171083	-0.12848	-0.39797	0.0748	0.029894	0.015945	0.060597	-0.24996	0.138637	-0.14999	0.202971	0.056266	0.211979	0.244355	1	0.39285	0.63775	0.526424	0.522526
22 Q12b	0.088821	0.212297	-0.23794	-0.32738	0.108587	0.036011	0.107004	-0.06516	-0.28189	0.138979	0.06506	0.217787	0.115042	0.07948	0.19563	0.39285	1	0.498962	0.456385	0.678513
23 Q12c	0.100343	0.223621	-0.09975	-0.25653	0.143186	0.052326	-0.00266	-0.04408	-0.37027	0.024529	0.085993	0.236882	0.173875	0.256004	0.313484	0.63775	0.498962	1	0.703296	0.664603
24 Q12d	0.258207	0.139413	-0.07897	-0.23945	0.035427	0.025081	-0.04855	-0.02426	-0.44389	-0.03928	0.049031	0.127568	0.148443	0.117201	0.197302	0.526424	0.456385	0.703296	1	0.624098
25 Q12e	0.028728	0.173962	-0.19652	-0.31852	0.166268	0.086716	0.013321	0.055822	-0.3462	-0.04866	0.094604	0.113506	0.051109	0.07103	0.195628	0.522526	0.678513	0.664603	0.624098	1

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